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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MOORE, MARGARET G

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/509,080	Applicant(s) KOSUGE ET AL.	
	Examiner Margaret G. Moore	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 to 12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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1. Initially, the Examiner notes that the phrase "heat resistant fiber", as read in light of the specification, refers to a fiber which "can stand a curing temperature for a siloxane polymer" (page 9, lines 12 to 14 of the instant specification). Thus any fiber upon which a siloxane is cured meets this limitation. This opens the breadth of the heat resistant fiber in claims 1, 5, 7 and 9 to include numerous fibers in addition to those preferred in, for instance, claim 3.

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 2, 5, 6, 8 and 9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 5, 7, 8, 11, 13 and 14 of copending Application No. 09/874,055. Although the conflicting claims are not identical, they are not patentably distinct from each other because the term heat resistant fiber in instant claim 1 embraces the fiber in claim 1 of '055, since the siloxane composition applied to the fiber in '055 is subsequently cured. Note too that the generically claimed siloxane polymer, as well as the specific polymer in claim 2, is met by the claims in '055.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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4. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what is embraced by the phrase "tape-like yarn form".

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 5, 6, 8 and 9 are rejected under 35 U.S.C. 102(a) or (b) as being anticipated by EP 1 179 633 or 1 059 383, respectively.

The teachings in these references are similar so the Examiner will address these rejections simultaneously.

EP 1 179 633 teaches coated fibers coated with a silane of formula (1), a silane of formula (2) and a catalyst. See page 3. These silanes meet formula (1) and (2) in claims 2, 5 and 6. See line 11 on page 3 which teaches fibers and page 9, line 47, which teaches the temperature at which the siloxane is cured. Note that this reference is the EP equivalent of 09/874,055.

EP 1 059 383 teach coated fibers that are also coated with a silane of formula (1), a silane of formula (2) and a catalyst. See pages 3 and 4. These silanes meet

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formula (1) and (2) in claims 2, 5 and 6. See line 9 on page 3 which teaches fibers and paragraph 43, which teaches a heating temperature of 300° C or lower.

Since the fibers in both prior art references withstand the curing temperature of the siloxane, they meet the requirement of a heat resistant fiber. As such the requirements of claims 1, 2, 5, 6, 8 and 9 are met by the prior art. (The examiner has included claim 9 in these rejections since it is unclear what is embraced by "tape like yarn form", but the paper fibers in the prior art appear to fall within the breadth of such language.)

8. Claims 1 to 3, 5 to 9, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Naito et al.

Naito et al. teach a solvent free coating composition containing a siloxane (1) as shown on the bottom of column 7. This formula embraces instant formula (1) in claim 2 and patentees specifically teach Liquid organopolysiloxane (A) on the bottom of column 12 which meets the formula (1). The coating composition also contains a crosslinking agent, as defined on column 8, lines 20 to 25. This embraces instant formula (2) in claim 6, while the specifically disclosed crosslinking agent on the top of column 13 fully meets this formula. Note too that the curing catalyst (C) on column 13 meets the curing agent in claims 5 and 6.

Column 24 teaches the addition of various aggregate components, including glass fibers and carbon fibers. This meets the required heat resistant fiber and the specific limitations of claims 3, 11 and 12. Note too M-9 on Table 11 which includes glass fiber, meeting these claims as well as claim 7 (since claim 7 only requires these two components).

9. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naito et al.

Naito et al. does not teach the use of aramid fibers (of which polyparaphenylene terephthalamide is a species). Column 24, line 16, teaches including organic fibers as an aggregate while lines 55 and 57 teach applying the siloxane coating to fibers and various fabrics.

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It is well known that aramid fibers are used in flame resistant materials such as fire fighting uniforms, furniture and mattresses. This is directly related to the inherent properties of aramid polymers. The composition of Naito et al. has good flexibility, flame resistant properties, heat and alkali resistant properties and water impermeable properties. See column 1, lines 14 to 19. In addition this coating composition has the added benefit of not having undesirable organic solvents. See column 1, lines 30 and on.

Thus one having ordinary skill in the art, having the knowledge that aramid fibers are used as flame resistant materials, would have been motivated by the teaching in Naito of including organic fibers to select aramid fibers as such fibers in an effort to improve the flame retardancy of the composition therein.

On the other hand, the skilled artisan would have been motivated to coat an aramid fiber as a fiber taught by Naito et al. in an effort to improve the properties thereof such as flame and heat resistance. In this manner the instant claims are rendered obvious.

10. To support the Examiner's position of the inherent flame resistant properties of aramid polymers, the Examiner cites Forsten et al. and Blaustein et al. The abstracts of both of these references generally refer to the incorporation of aramid fibers in fire resistant materials. See also Stengle, Jr., column 3, lines 10 to 15.

11. Claims 1 to 9, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Stengle, Jr.

Stengle teaches heat resistant composite materials. The base material is a poly-aramid fibrous yarn such as Kevlar, which is a polyparaphenylene terephthalamide fiber (as noted by applicants on page 10 of their specification). This meets the heat resistant fiber of claim 1, as well as specific claims 3, 4 and 8 to 12. Stengle treats this fibrous yarn with a silicone composition as taught on, for instance, column 4. The GE SR 191 is a siloxane polymer having the formula of formula (1) in claim 2. The molecular weight of 600 would correspond to a "n" value within the claimed range. The polysiloxane

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glass T-908 corresponds to the additional compound of claim 6, since these compounds can be condensates. Note lines 20 to 30 of column 5 which teaches that T-908 is a phenyl methyl siloxane resin. In this manner the teachings in Stengle meet the requirements of claims 1 to 4.

For claim 5, see the teachings of a catalyst on column 5, line 55.

For claim 7, see column 8, lines 32 and on, which teach contacting the composite material with glass.

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stengle, Jr. in view of Jasinski et al.

Stengle fails to teach a metal catalyst, but on column 5, line 57, they refer to Jasinski (3,654,058) as teaching operable catalysts.

Jasinski teaches the phosphonic acids specifically mentioned by Stengle, but column 6, lines 62 to 64, teaches that certain metal catalysts can be used in the alternative to obtain equivalent results. This includes aluminum chelates, which meet the requirement of claim 10.

Thus one having ordinary skill in the art would have been motivated by the teachings in Jasinski et al. to use a metal catalyst such as those taught on column 6, lines 52 to 54, in the composite of Stengle et al. with a reasonable expectation of obtaining equivalent results. This renders obvious the requirements of claim 10.

13. Hider et al. and Inglefield are cited as being of general interest. These references are not deemed to be a close to the instant claims as those cited supra.


14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday to Wednesday and Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Margaret G. Moore
Primary Examiner
Art Unit 1712

mgm
10/28/05